

432 MHz AND ABOVE EME NEWS

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CONDITIONS:

Only one month to go and it will be ARRL EME Contest time again. I can feel the electricity building. The 2nd Aug/1st Sept SW was hopefully a mini preview of this year's main event. Conditions were good and activity up. The rise in activity may have been due to scheduling of the Italian EME Contest for this weekend, although this NL did have info on the contest, many stations did not seem to know a contest was in progress... Or it may simply has been due to the ending of summer activities and a return of interest in EME and the coming competition. On 23 cm YL3AG was back again along with YL2KA from Lithuania and CT1DMK for new 1296 countries. It looks like 4X4 will also be QRV on 23 cm for the contest - see below.

4X1IF:

Ralph writes -- Howie, 4X6UJ, Chris, 4Z5JA and Arkady, 4Z5DB and myself

are planning to participate in the upcoming EME ARRL contest. Howie and the group in Haifa will have a 3 m dish ready for the contest, as well as 100 w on 1.3 GHz. We would like to run some tests on 23 cm before the contest. We also will probably run on 70 cm using my amp. So if good health and weather permits, we will be QRV. The telephone number is 972 4 8381180 (ATR Electronics).

CTIDMK:

Luis is now QRV on both 432 and 1296 EME -- I was active on 432 testing my new amplifier for the 1st time during the Eur/REF Contest. The amp is home made and employs a GS35b. It is capable of 1.5 KW, but unfortunately I had to run it with the 2.5 KV power supply from my 2 m amplifier. This gives about 1 KW (or less). The antennas are 4 x 23 el (DL6WU) yagis with open feeder and an MGF1303 LNA at the feed. I worked DL9KR (O/M) before I had the amp, using only 100 w. With the 1 KW amp I worked, most on random, NC1I (O/O), K1FO (M/M), N4GJV (M/M), SM4IVE (O/O), DL9KR (O/O), UR5LX (O/O), K5GW (559/339), DK3WG (M/M) and EA6/DF5JJ (M/M). On 1296, finally after 8 long months of work, I have a 5.6 m dish resurrected from scrap and put to work on the best job ever - EME! The antenna positioning uses DC motors with pulse feedback (like satellite actuators). The movements are inclination/rotation axis. This requires computing to convert to Az/el. The position control is done by a 8051 based controller that requires only Az/el targets and does the aiming job all alone. The final result is a 0.1 deg resolution in the rotation (similar to Hour Angle) and a 0.14 deg resolution in the inclination (similar to Declination). The resulting windows are for negative dec from 110 to 230 deg in Az, for dec near zero from 105 to 240 deg, and for positive dec from 100 to 250 deg. I'm using a scalar feed, with about 100 w and a .6 dB NF LNA. My own echoes are weak but there most of the time. A higher power amp (1 KW) is under construction, never the less, in the mean time I can accept skeds. I worked on 4 Aug EA6/DF5JJ (559/339) for initial #1 on 1296 EME from CT, and on 9 Aug OE9XXI (559/449). During 4 Aug, I received excellent signals from OE9XXI (559), VE1ALQ (559) - he replied with QRZs to my call, F6CGJ (569), HB9BBD (549), PA3CSG (579), and some others that I couldn't get the complete the callsign.

G3LQR:

Simon writes that he is concentrating on EME again. He has not been too active the last few months, but should be more QRV in the future. He has made repairs to his 432 array and is getting 12.5 dB of Sun noise again. He has switched feeds in his dish from 13 cm back to 23 cm, and is getting 13 dB of Sun noise after correcting a connector problem. Simon still has only a 2x2C39 PA going on 1296, but is moving this amp to the base of his dish which should up his effective power by 2.5 dBs. In the future he plans to also add EME capability for 9 cm.

G4DZU:

Doug had a great time on 23 cm during the July SW -- The best yet with 9 QSOs and 3 initials, bringing me up to #26. Echoes weren't too strong, but activity was certainly up. I QSO'd on 3 July KB2AH, OE9XXI and AA6WI, and on 4 July W2UHI, HB9BBD, ZS6AXT (sked), OE9XXI, WD5AGO and F6CGJ. I need to prune some of the shrubs in the garden as they've sprung up over the summer and have started to block the dish during my restricted US window.

HB9BBD:

Dominique's EME report follows -- No question, the EME conference was an exiting event. We all got to know each other much better and deepened our friendship. Willie and his crew did a superb job in organizing the social and technical program. Special thanks for the interesting handout! We really enjoyed meeting so many EMEers. Marie sends her regards to all, especially to Charlotte and Darrel. I did not participate in the Italian contest. I feel the rules are too complex. Nevertheless I made many fine contacts on 1296. I QSO'd on 31 Aug W2UHI (539/549), OE9XXI (589/559), KB2AH (56/53) on SSB, OE9XXI (53/53) on SSB, AA6WI (539/539), IK3COJ (529/549), F1ANH (539/549), ZS6AXT (539/559), YL3AG/A (549/539) for initial #72 and a new country, partial DH9FAG (M/-) on sked, HB9SV (569/559), EA6ADW (559/559), and on 1 Sept N2IQU (569/559), VE1ALQ (569/569), KB2AH (589/569) and on SSB (56/54), W2UHI (539/559), SM2CEW (519/559), OH2AXH (569/569), AA6WI (549/549) and OE9XXI on SSB (54/53). Conditions seemed to be excellent, especially on Saturday. I have a line on 2 commercial 10 m dishes mounted on a mountain top. I can get them free, but must dismantle and transport them at my own cost. One of the dishes is on a 45 m tower.

JA4BLC:

Yoshiro writes -- On 31 Aug, I worked on 2424.1 JH3EAO (M/O), on 432 UR5LX, G3SEK, DK3WG and JA5OVU, and on 1296 OE9XXI (579/559), EA6ADW (539/449) - this is the new call of EA6/DF5JJ and YL3AG/A (559/539) for initial #55. On 1 Sept I worked DF3RU on 432.

K0RZ:

Bill updates us on his activity from March through the Aug SW -- All QSOs were random. I QSO'd on 3 March N4PZ, in Eur Contest on 23-24 March DF3RU, DJ6MB, DK3WG, DL9KR, DL9NDD, EA2LU, F6CGJ, G4RGK, K1FO, K2UYH, K5JL, KB8ZW, N4GJV, NC1I, ON4KNG, OZ4MM for initial #215, SM2CEW, SM3AKW, SM4IVE, UR5LX, UT5DL and UT5EC for a total score of 22x14, heard during the contest were EA3DXU, HA1YA, KD4LT, VE6TA, W7FN and W9QXP - CWNRR several times, on 22 April 7M2PDT

#216 and W2CRS, on 25-26 May K2UYH and W2CRS, on 6 July JA5OVU and JA2KRW, on 4 Aug K5WXN, VE6TA, VT7VF #217, W7HAH, UR5LX, SM2CEW, DF3RU and 7M2DPT. The 96 Int'l EME conference was excellent. Thanks to W1ZX, AA4TJ, and W4RDI for all the hard work. I returned to home all inspired to add polarity switching on 432, and to get QRV on 23 cm EME.

K1FO:

Steve was very pleased to once again see the return of good EME conditions and good activity with the 31 Aug/1 Sept skeds weekend. It sure is amazing every year to see the improvement in activity and conditions at end of summer. It was also good to have some common window with Eur at reasonable operating hours. Worked over the SW were on 30 Aug KA0RYT, on 31 Aug EA6/DF5JJ, UA6LGH, UT7VF, YO2IS, F5SDD (549/559) initial #496?, F5IVP (549/559) sounded like the same station as F5SDD, KA0RYT, IK0EQJ, EA3DXU, W2CRS, JA5OVU, JA2KRW, JA2TY #497, JR9NWC, JH4JLV and W9QXP, on 01 Sept ON4KNG, KD4LT, UR5LX, I2COR, DK3FB and JO3RNL, and on 02 Sept NA4N (449/459) #498. Worked earlier in the month were on 04 Aug SM3AKW, WA4NJP, JA2KRW, 7M2PDT, JS3SIM, JA5OVU and KD4LT. The early Aug SW corresponded to the ARRL UHF contest. Unfortunately Steve was only able to get grids squares out of SM3AKW and KD4LT. Worked on 10 Aug was KF0M (O/O) #495. Steve had a great time at the EME conference in Bowie, MD. Steve has taken advantage of the great late summer weather to do some repairs on the array. The main problem has been wear in the key ways on his HDR-300 and polarity shaft coupling. The array had about 60 degrees of angular play in it. Its a good thing that polarity on EME usually only requires +/- 20 degree accuracy. The repairs to the HDR-300 consisted of machining a new output shaft out of 4130 steel with a larger key way to mate with the output gear on the HDR-300. The new shaft was also made longer to eliminate a coupling. Finally the original HDR-300 mast clamp base was replaced by large machined aluminum blocks designed to attach to the output shaft with a large contact patch, that is they will be held by friction and not by a key way. Steve hopes that these parts will hold up longer than the original HDR-300 parts which have never made it even 2 years before requiring a rebuild. The HDR-300 is however a big improvement over the Taitwister he originally used for polarity rotation as this rotator never made it past a month without breaking. He also notes that arrays of 16 rear mount yagis are quite manageable and can be handled by ham rotors. Expanding the array from 16 to 24 yagis and it's resultant mechanically non-symmetrical shape makes the array far more difficult to handle. To put it another way it seems like the additional 1.7 dB in array gain has resulted on 6 dB of mechanical stress and problems. However, his little 24 Yagi array is nothing compared to NC1I's 48 Yagi array or K5GW's 64 Yagi array. At the conference Frank and Gerald traded notes on sheared bolts, bolts that magically loosen up and other problems with their

polarity rotation systems. Steve's 432 MHz EME totals are #498 initials, 49 states and 75 DXCC.

KB2AH:

Tom reports -- Activity seems to be up on 23 cm for the SW. My 2nd dish is now up. It is 6 m in dia and built out of stainless steel. It is mounted on a tower to give me a window of ≥ 6 deg at any dec. My Asian window is still a problem, but that will be taken care of very shortly. (The tops of some trees still have to be trimmed to the west.) Sun noise is 16.5 dB. The center of the dish is up at 8 m. And I will be able to be QRV in winds up to 40 mph. I will be running 500 w with a separate amp. My 10.3 m dish of course is still in operation with 1 KW. I will use the 6 m dish until the moon gets into the window of my 10 m dish - usually at about 25 deg and then switch to the bigger dish. Switching dishes takes about 10 sec. It is quite interesting to be able to RX echoes on the 10 m dish from a TX on the 6 m dish, or in reverse. Tracking 2 at once is even more fun. I am considering setting up a 1296 off the moon beacon, when I am not on. The logistics require more than just your every day tracking program. (Power is the least of the problems.) It was a pleasure meeting all who attended the EME conference, I had a great time.

KF0M:

John writes -- I have been active on 432 EME for the past several months with a temporary setup consisting of 2 9 w/ M2 yagis on a tripod in the back yard. They are mounted with vert pol. The PA is a K2RIW at about 800 w. TX feed line is a mixture of 7/8 hard line and 9913. The preamp is an MGF1402 mounted at the antenna with 9913 into the shack. So far I have worked NC1I on random for my 1st contact followed by K5JL, K1FO and KD4LT on schedules. SM2CEW was not heard on a schedule. My Grid square location is EM17 in Kansas. Home phone 316-554-0597 and work 316- 941-6464. E-mail is: [John, KF0M](mailto:John.KF0M@earthlink.net)

OE9XXI:

Peter added a new 1296 country on 9 Aug by QSOing CT1DMK (439/559). (CT1DMK, Luis is using a 5.6 m dish with lin pol and 80 w). He contacted on 1296 on 31 Aug/1 Sept N2IQU (569/589), VE1ALQ (569/589), W2UHI (559/589) and (54/55) on SSB, HB9BBD (559/589) and (53/53) on SSB, G4DZU (549/569), AA6WI (559/559) and (55/56) on SSB, KB2AH (56/57) on SSB, IK3COJ (549/569), SM5DGX (539/549), DH9FAG (549/559), ZS6AXT (559/579), YL3AG/a (559/579), EA6ADW (559/569) and (55/56) on SSB, JA4BLC (559/579), HB9SV (579/579), OH2AXH (569/579), WD5AGO (559/579), SM2CEW (559/579), YL2KA (42/53) on SSB, HB9BHU (559/559), F5PAU (569/559) and F1ANH (569/569) and (54/55) on SSB - all QSOs were on random.

VK2ALU:

Lyle brings us up-to-date on his 3 cm status -- I have been busy constructing an "upgraded" 10 GHz EME setup. It has been some 3 years since I started using a 1.75 m dish for the contact with Jim WA7CJO, back in Oct 1994. In Jan 1995 I was given a 3.7 m Andrew dish, along with Gregorian sub-reflector, but not the 11-14 GHz corrugated feedhorn. (I currently using a pyramidal feedhorn.) As I had already received a lot of help from Charlie, G3WDG, (and others, as Kent, WA5VJB, etc.), I decided to try to "stretch" the distance a bit by QSOing G3WDG. After a number of attempts, and replacement of my TWTA by one loaned by Charlie, we finally succeeded on 18 Aug (M/O). As it had taken only 25 min of our 50 min common window, we set up a test with Petra, G4KGC. This QSO took only 7.5 mins to complete (O/O). The distance using GPS receivers and the VK3UM computer program, came to 17,000.4 km. An interesting point was the additional noise which we had to contend with, using such low elevations. I had local rain showers and heard rain scatter effects at one time during the test. (One of the earlier tests was severely affected by rain scatter from a thunderstorm on the path close to Charlie's location). I had some assistance at the time of the test from our local radio club members, as I had to make up a trailer and mount my 3.7 m dish on to it, in order to be able to move the dish to the only place on my property from which I can see the western horizon. This is on my front driveway. Welding was done by Mike, VK2DFK. We initially manhandled the trailer to a point where I could hitch it to a towbar on the front of my car. Then we pulled it to the operating position. Of course, the dish can only be left in this position for the test period. We had to move it back to its "stow" position, beside the house afterwards - out of the worst of the wind and more out of sight to passers-by, etc. I operate EME from inside my garage, about 25 m from the dish, by means of some 60 control lines and 3 coax cables. I get one of the guys to act as a "2nd op" whose job is to track the moon using moon noise during the 2.5 min RX periods. During the 2.5 min TX periods a "home brew" auto tracking system takes over to keep the dish "on the moon" within 0.2 degrees. I have received a lot of assistance from amateurs, both in VK and overseas to get this system "up and running" and gratefully acknowledge this. The pol is vert at present (as required to work into Europe) so some mods will be required to work into NA. I only get 1-2 days per month where I can use the gap in the trees for EME. I can turn the dish on the trailer in azimuth to "look east", but as I am taking my "long suffering" wife on a holiday to Perth Western Australia to see our grandchildren, it will be a while before any more tests can be organized.

W1ZX:

Willie has not been on 70 cm EME recently, because of involvement with the EME Conference. All went very well at the conference. One exception was the Proceeding. The printer had a problem, and the center section was printed

backward. Any attendees that would like to, can return their Proceedings to Willie Mank (7620 Bensville Rd., Waldorf, MD 20603). The printer will correct this problem at no cost, and Willie will return them. Willie has some extra hats (\$10.00), coffee cups (\$5.00), and clocks (\$3.00) from the '96 EME Int'l Conference For Sale with the logo of course. Also available are Proceedings at \$US 12.00 + shipping (\$3.00 in the US), shirts at \$27.50 + shipping, and name badges for \$ 7.00. The list of the Conference attendee per W4RDI includes AA2AM, AA4TJ, AA6WI, DF6NA, DF9CY, DL3YEL, F5FLN, F5JWF, G8RWG, HB9BBD, HB9BHU, HL5QO, IK6EIW, IW6ARH, K0RZ, K1FO, K2UYH, K3EAV, K3JH, K3LFO, K3XA, K5GW, K5JL, K9BCT/4, KB2AH, KB8ZW, KC4CQR, KD4LT, KR1R, N2CEI, N2IQU, N4MW, N8FGV, NA3I, NU7Z, NV3Z, PY5ZBU, S56UUU, SM0PYP, SM3AKW, SM5BSZ, SM7GVF, VE1ALQ, VE1XYL, VE3ASO, VE3UXZ, VK1VP, W1ZX, W3SDZ, W4HHK, W4RDI, W4RX, W5LUU, W7FN, W8MQW, W8TN, WA3ZKR, WA4NJP, WA7CJO, WA9FWD, WB4NFS, WB5LUA, WE5X, WG3R, WI7Z, ZL1GSG and ZS6PT. Willie hopes everyone had a great time at the Conference. Willie and Bill, AA4TJ thank all the speakers. The grand prize was a NEW Bird 43 w meter won by HB9BHU. Another negative was that Willie's truck disappeared while he was at the conference, and was apparently stolen. Willie is still missing his 1990 Chevy Pick-up.

YO2IS:

Szigy sends the following QSO information -- on 3-4 Aug at 2320 OZ4MM (559/429), 2330 JA2KRW (O/O) for initial #131, 2352 DF3RU (559/339), 0000 7M2PDT (M/M) #132, heard JS3SIM (M) and nil from F1IKA, and on 31 Aug - 1 Sept (Italian Contest) at 0200 K1FO (569/439), 0230 UR5LX (579/O) - very strong, 0245 WA4NJP (O/O), 2200 DK3WG (O/O), 2220 DJ6MB (559/O), 22.50 PA3CSG (559/539), 2305 ON4KNG O/O, 2315 DF3RU (559/539), 2330 I2COR (O/O) and 2335 IK2EAD (O/O) - heard were KD4LT (569) - CWNR, EA3DXU (M), F5IVP (449) - CWNR and DK0NA (559) testing for echoes. I still need Oceania for WAC, pity that my window is quite small to the east. My standings are at initial #132, DXCC 33, states ?, grids 110 and sectors 23.

K2UYH:

I was active during the 2nd Aug SW on 70 cm, and amazingly just about everything seemed to work after a 2 month hiatus. The only problem was my azimuth readout. This turned out to be a broken shaft in a reduction gear, which may have been the cause of unexplained readout errors I have experienced in the past. My hearing seemed to be more the way it use to be. I cut back from 2 to 1 preamps at the feed of my dish. This change was suggested by K1FO at the Conference. In recent years, broadcast and commercial radio services have greatly increased in the vicinity of my station. Steve felt these powerful sources may be desensing my preamps. I plan to do additional follow up on this

possibility prior to the contest. Because of family activities during the US Labor day holiday weekend, I was only active on Saturday morning. I QSO'd at 0416 K5JL (559/569), 0421 KD4LT (559/-) - lost when I switched to SSB, 0448 IK5JWD (559/O), 0459 G3SEK (559/549), 0520 ON4KNG (559/O), 0549 EA3DXU (559/O), 0621 WI7Z (559/579) for initial #570 and 0640 G3HUL (559/549). I also tried to operate during the JA window, but with the relatively low Moon dec, the tree foliage was too great. I plan to be QRV on both 432 and 1296 in Sept.

NETNEWS

KB3PD's e-mail address was apparently still wrong in the last NL. Rick's correct address is [Rick, KB3PD](#) [I hope!].

W8TN is planning to drive to FL to pick up Randy, K9BCT's 4.6 m solid dish, which he plans to use on 1296 and above EME.

EA6ADW is the new call of EA6/DF5JJ.

DK3FB has completed WAC with a QSO to PY5ZBU. He now stands at initial #74, DXCC 24 and WAS 13.

WA6MGZ has moved to AZ and plans to be QRV on 432 with 4 x 12 wl yagis and on 1296 with a 5 m dish, before the end of the year.

HB9SUL (JN46la) worked 9 station in the last ARRL EME Contest, but after that was away in VK for 6 months. Andrea is now back home again. He expects to be QRV on 70 cm with 4 x38 el yagis and 500 w from an RIW final for the Oct SW. His address is (A. Bianchi, Via Arbostra, 23/E, CH-6963 - PREGASSONA, SWITZERLAND).

FOR SALE

GR IF Amplifier 1236a, a better model than the 1216a at \$US150.00 and shipping, **A Bird 43 Wattmeter**